LineUp With Math™ Alignment
Mathematics Grade Level Expectations
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Strand: Number, and Operations

Grade-Level Expectations	*LineUp With Math*™ Activities
M(N&O)-6-1 **Demonstrates conceptual understanding of rational numbers with respect to** ratios (comparison of two whole numbers by division *a/b, a : b, and a ÷ b , where b* ≠ 0); and rates (e.g., *a* out of *b*, 25%) **using models, explanations, or other representations.***	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control. --Use percent relationships to resolve distance, rate, time conflicts in air traffic control.
M(N&O)–6–7 **Makes estimates** in a given situation by identifying when estimation is appropriate, selecting the appropriate method of estimation, determining the level of accuracy needed given the situation, analyzing the effect of the estimation method on the accuracy of results, and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Strand: Geometry and Measurement

Grade-Level Expectations	*LineUp With Math*™ Activities
M(G&M)-6-7 **Measures and uses units of measures appropriately and consistently, and makes conversions within systems when solving problems** across the content strands.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Strand: Functions and Algebra

Grade-Level Expectations	*LineUp With Math*™ Activities
M(F&A)-6-2 **Demonstrates conceptual understanding of linear relationships** ($y = kx$; $y = mx + b$) **as a constant rate of change** by constructing or interpreting graphs of real occurrences and describing the slope of linear relationships (faster, slower, greater, or smaller) in a variety of problem situations; **and describes how change in the value of one variable relates to change in the value of a second variable** in problem situations with constant rates	--Use an interactive simulator to identify distance, rate, time conflicts in air traffic control problems and resolve the conflicts by varying plane speeds or changing plane routes.

of change.	

Strand: Problem Solving, Reasoning, and Proof

Grade-Level Expectations 6-8	***LineUp With Math™* Activities**
M(PRP)–8–1 **Students will use problem-solving strategies to investigate and understand increasingly complex mathematical content** and be able to: • Use problem-solving strategies appropriately and effectively for a given situation. • Determine, collect and organize the relevant information needed to solve real-world problems. • Apply integrated problem-solving strategies to solve problems in the physical, natural and social sciences, and in pure mathematics. • Use technology when appropriate to solve problems. • Reflect on solutions and the problem-solving process for a given situation and refine strategies as needed.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts. --Explore and apply a variety of strategies to optimize the solution of air traffic control conflicts.

Strand: Communication, Connections, and Representations

Grade-Level Expectations 6-8	***LineUp With Math™* Activities**
M(CCR)–8–1 **Students will communicate their understanding of mathematics** and be able to: • Articulate ideas clearly and logically in both written and oral form. • Present, share, explain, and justify thinking with others and build upon the ideas of others to solve problems. • Use mathematical symbols and notation. • Formulate questions, conjectures, definitions, and generalizations about data, information, and problem situations.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations. --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
M(CCR)–8–2 **Students will create and use representations to communicate mathematical ideas and to solve problems** and be able to: • Use models and technology to develop equivalent representations of the same mathematical concept. • Use and create representations to solve problems and organize their thoughts and ideas. • Convert between representations (e.g., a table of values, an equation, and a graph may all be representations of the same function).	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.